<u>RAW SEQUENCE LISTING</u>

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: _10/696,488B_

Source: _1FWO_

Date Processed by STIC: _3/25/05_

ENTERED

RAW SEQUENCE LISTING   DATE: 03/25/2005
PATENT APPLICATION: **US/10/696,488B**   TIME: 07:28:30

Input Set : **D:\411-05-20890SEQLISTASFILED.TXT**
Output Set: **N:\CRF4\03252005\J696488B.raw**

```
 4 <110> APPLICANT: Cuenoud, Bernard
 5        Altmann, Karl-Heinz
 6        Martin, Pierre
 7        Moser, Heinz Ernst
 9 <120> TITLE OF INVENTION: 2'-Substituted Nucleosides and
10        Oligonucleotide Derivatives
12 <130> FILE REFERENCE: 4-20890B/C1
14 <140> CURRENT APPLICATION NUMBER: US 10/696,488B
15 <141> CURRENT FILING DATE: 2003-10-29
17 <150> PRIOR APPLICATION NUMBER: US 09/753,943
18 <151> PRIOR FILING DATE: 2001-01-03
20 <150> PRIOR APPLICATION NUMBER: US 09/194,844
21 <151> PRIOR FILING DATE: 1999-05-14
23 <150> PRIOR APPLICATION NUMBER: PCT/EP97/02738
24 <151> PRIOR FILING DATE: 1998-05-27
26 <150> PRIOR APPLICATION NUMBER: Switzerland 1432/96
27 <151> PRIOR FILING DATE: 1996-06-06
29 <160> NUMBER OF SEQ ID NOS: 22
31 <170> SOFTWARE: FastSEQ for Windows Version 4.0
33 <210> SEQ ID NO: 1
34 <211> LENGTH: 20
35 <212> TYPE: RNA
36 <213> ORGANISM: Homo sapiens
38 <400> SEQUENCE: 1
39 aaugcauguc acaggcggga                                        20
41 <210> SEQ ID NO: 2
42 <211> LENGTH: 20
43 <212> TYPE: DNA
44 <213> ORGANISM: Artificial Sequence
46 <220> FEATURE:
47 <223> OTHER INFORMATION: Mammalian
```
W--> `49 <221> NAME/KEY: misc_feature`
```
50 <222> LOCATION: (1)...(20)
51 <223> OTHER INFORMATION: at least one modified sugar residue
```
W--> `53 <400> 2`
```
54 tcccgcctgt gacatgcatt                                        20
56 <210> SEQ ID NO: 3
57 <211> LENGTH: 15
58 <212> TYPE: DNA
59 <213> ORGANISM: Artificial Sequence
61 <220> FEATURE:
62 <223> OTHER INFORMATION: Mammalian
```
W--> `64 <221> NAME/KEY: misc_feature`

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```
         65 <222> LOCATION: (5)...(0)
         66 <223> OTHER INFORMATION: 2'-substituted sugar at position 5
W--> 68 <400> 3
         69 tttttctctc tctct                                          15
         71 <210> SEQ ID NO: 4
         72 <211> LENGTH: 15
         73 <212> TYPE: DNA
         74 <213> ORGANISM: Artificial Sequence
         76 <220> FEATURE:
         77 <223> OTHER INFORMATION: Mammalian
W--> 79 <221> NAME/KEY: misc_feature
         80 <222> LOCATION: 5, 7, 9, 11, 13
         81 <223> OTHER INFORMATION: 2'-substituted sugar at positions 5, 7, 9, 11 and
         82      13
W--> 85 <400> 4
         86 tttttctctc tctct                                          15
         88 <210> SEQ ID NO: 5
         89 <211> LENGTH: 16
         90 <212> TYPE: DNA
         91 <213> ORGANISM: Artificial Sequence
         93 <220> FEATURE:
         94 <223> OTHER INFORMATION: Mammalian
W--> 96 <221> NAME/KEY: misc_feature
         97 <222> LOCATION: 1, 7, 9 15
         98 <223> OTHER INFORMATION: 2'-substituted sugar at positions 1, 7, 9, and 15
W--> 101 <400> 5
        102 tccaggtgtc cgcatc                                         16
        104 <210> SEQ ID NO: 6
        105 <211> LENGTH: 15
        106 <212> TYPE: DNA
        107 <213> ORGANISM: Artificial Sequence
        109 <220> FEATURE:
        110 <223> OTHER INFORMATION: Mammalian
W--> 112 <221> NAME/KEY: misc_feature
        113 <222> LOCATION: (1)...(5)
        114 <223> OTHER INFORMATION: 2'-substituted sugar at positions 1-5
W--> 117 <400> 6
        118 tttttctctc tctct                                          15
        120 <210> SEQ ID NO: 7
        121 <211> LENGTH: 15
        122 <212> TYPE: DNA
        123 <213> ORGANISM: Artificial Sequence
        125 <220> FEATURE:
        126 <223> OTHER INFORMATION: Mammalian
W--> 128 <221> NAME/KEY: misc_feature
        129 <222> LOCATION: (5)...(14)
        130 <223> OTHER INFORMATION: 2'-substituted sugar
W--> 133 <221> modified_base
        134 <222> LOCATION: 6, 8 10, 12, 14
```

```
      135 <223> OTHER INFORMATION: m5c
W--> 137 <400> 7
      138 tttttctctc tctct                                          15
      140 <210> SEQ ID NO: 8
      141 <211> LENGTH: 15
      142 <212> TYPE: DNA
      143 <213> ORGANISM: Artificial Sequence
      145 <220> FEATURE:
      146 <223> OTHER INFORMATION: Mammalian
W--> 148 <221> NAME/KEY: misc_feature
      149 <222> LOCATION: (1)...(14)
      150 <223> OTHER INFORMATION: 2'-substituted sugar
W--> 152 <221> modified_base
      153 <222> LOCATION: 6, 8, 10, 12, 14
      154 <223> OTHER INFORMATION: m5c
W--> 156 <400> 8
      157 tttttctctc tctct                                          15
      159 <210> SEQ ID NO: 9
      160 <211> LENGTH: 15
      161 <212> TYPE: DNA
      162 <213> ORGANISM: Artificial Sequence
      164 <220> FEATURE:
      165 <223> OTHER INFORMATION: Mammalian
W--> 167 <221> NAME/KEY: misc_feature
      168 <222> LOCATION: (5)...(14)
      169 <223> OTHER INFORMATION: 2'-substituted sugar
W--> 171 <221> modified_base
      172 <222> LOCATION: 6, 8, 10, 12, 14
      173 <223> OTHER INFORMATION: m5c
W--> 175 <400> 9
      176 tttttctctc tctct                                          15
      178 <210> SEQ ID NO: 10
      179 <211> LENGTH: 15
      180 <212> TYPE: DNA
      181 <213> ORGANISM: Artificial Sequence
      183 <220> FEATURE:
      184 <223> OTHER INFORMATION: Mammalian
W--> 186 <221> NAME/KEY: misc_feature
      187 <222> LOCATION: (11)...(0)
      188 <223> OTHER INFORMATION: 2'-substituted sugar
W--> 191 <400> 10
      192 agagagagag aaaaa                                          15
      194 <210> SEQ ID NO: 11
      195 <211> LENGTH: 15
      196 <212> TYPE: DNA
      197 <213> ORGANISM: Artificial Sequence
      199 <220> FEATURE:
      200 <223> OTHER INFORMATION: Mammalian
W--> 202 <221> NAME/KEY: misc_feature
```

```
     203 <222> LOCATION: 3, 5, 7, 9, 11
     204 <223> OTHER INFORMATION: 2'-substituted sugar
W--> 206 <400> 11
     207 agagagagag aaaaa                                        15
     209 <210> SEQ ID NO: 12
     210 <211> LENGTH: 15
     211 <212> TYPE: DNA
     212 <213> ORGANISM: Artificial Sequence
     214 <220> FEATURE:
     215 <223> OTHER INFORMATION: Mammalian
W--> 217 <221> NAME/KEY: misc_feature
     218 <222> LOCATION: (11)...(14)
     219 <223> OTHER INFORMATION: 2'-substituted sugar
·W--> 221 <400> 12 .
     222 agagagagag aaaaa                                        15
     224 <210> SEQ ID NO: 13
     225 <211> LENGTH: 15
     226 <212> TYPE: DNA
     227 <213> ORGANISM: Artificial Sequence
     229 <220> FEATURE:
     230 <223> OTHER INFORMATION: Mammalian
W--> 232 <221> NAME/KEY: misc_feature
     233 <222> LOCATION: (2)...(11)
     234 <223> OTHER INFORMATION: 2'-substituted sugar
W--> 236 <400> 13
     237 agagagagag aaaaa                                        15
     239 <210> SEQ ID NO: 14
     240 <211> LENGTH: 13
     241 <212> TYPE: DNA
     242 <213> ORGANISM: Artificial Sequence
     244 <220> FEATURE:
     245 <223> OTHER INFORMATION: Mammalian
W--> 247 <221> NAME/KEY: misc_feature
     248 <222> LOCATION: 4, 6, 12
     249 <223> OTHER INFORMATION: 2'-substituted sugar
W--> 251 <400> 14
     252 aggtgtccgc atc                                          13
     254 <210> SEQ ID NO: 15
     255 <211> LENGTH: 16
     256 <212> TYPE: DNA
     257 <213> ORGANISM: Artificial Sequence
     259 <220> FEATURE:
     260 <223> OTHER INFORMATION: Mammalian
W--> 262 <221> NAME/KEY: misc_feature
     263 <222> LOCATION: (13)...(15)
     264 <223> OTHER INFORMATION: 2'-substituted sugar
W--> 266 <400> 15
     267 tccaggtgtc cgtttc                                       16
     269 <210> SEQ ID NO: 16
```

```
        270 <211> LENGTH: 21
        271 <212> TYPE: DNA
        272 <213> ORGANISM: Artificial Sequence
        274 <220> FEATURE:
        275 <223> OTHER INFORMATION: Mammalian-Target DNA
        277 <400> SEQUENCE: 16
        278 gctaaaaaga gagagagatc g                                        21
        280 <210> SEQ ID NO: 17
        281 <211> LENGTH: 21
        282 <212> TYPE: DNA
        283 <213> ORGANISM: Artificial Sequence
        285 <220> FEATURE:
        286 <223> OTHER INFORMATION: Mammalian-Opposite strand of target DNA SEQ ID NO:
        287     16
        290 <400> SEQUENCE: 17
        291 cgatctctct ctcttttag c                                         21
        293 <210> SEQ ID NO: 18
        294 <211> LENGTH: 20
        295 <212> TYPE: DNA
        296 <213> ORGANISM: Artificial Sequence
        298 <220> FEATURE:
        299 <223> OTHER INFORMATION: Mammalian
W-->    301 <221> NAME/KEY: misc_feature
        302 <222> LOCATION: (1)...(20)
        303 <223> OTHER INFORMATION: phosphorothioate backbone
W-->    305 <221> misc_feature
        306 <222> LOCATION: 2, 4, 15, 17, 19
        307 <223> OTHER INFORMATION: 2'-substituted sugar
W-->    309 <400> 18
        310 tcccgcctgt gacatgcatt                                          20
        312 <210> SEQ ID NO: 19
        313 <211> LENGTH: 20
        314 <212> TYPE: DNA
        315 <213> ORGANISM: Artificial Sequence
        317 <220> FEATURE:
        318 <223> OTHER INFORMATION: Mammalian
W-->    320 <221> NAME/KEY: misc_feature
        321 <222> LOCATION: (6)...(15)
        322 <223> OTHER INFORMATION: phosphorothioate backbone
W-->    324 <221> misc_feature
        325 <222> LOCATION: (1)...(5)
        326 <223> OTHER INFORMATION: 2'-substituted sugar
W-->    328 <221> misc_feature
        329 <222> LOCATION: (15)...(19)
        330 <223> OTHER INFORMATION: 2'-substituted sugar
W-->    332 <400> 19
        333 tcccgcctgt gacatgcatt                                          20
        335 <210> SEQ ID NO: 20
        336 <211> LENGTH: 20
```

VERIFICATION SUMMARY   DATE: 03/25/2005
PATENT APPLICATION: **US/10/696,488B**   TIME: 07:28:31

Input Set : **D:\411-05-20890SEQLISTASFILED.TXT**
Output Set: **N:\CRF4\03252005\J696488B.raw**

```
L:49  M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:53  M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:2
L:64  M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:68  M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:3
L:79  M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:85  M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:4
L:96  M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:101 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:5
L:112 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:117 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:6
L:128 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:133 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:7
L:137 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:7
L:148 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:152 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:8
L:156 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:8
L:167 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:171 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:9
L:175 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:9
L:186 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:191 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:10
L:202 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:206 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:11
L:217 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:221 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:12
L:232 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:236 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:13
L:247 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:251 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:14
L:262 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:266 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:15
L:301 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:305 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:18
L:309 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:18
L:320 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:324 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:19
L:328 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:19
L:332 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:19
L:343 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:347 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:20
L:351 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:20
L:355 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:20
L:366 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:371 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:21
L:375 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:21
L:379 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:21
L:390 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:395 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:22
```

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L:399 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:22
L:403 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:22